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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/708,807	
	Filing Date	March 26, 2004	
	First Named Inventor	Christopher Tokarz	
	Group Art Unit		
	Examiner Name		
Total Number of Pages in This Submission		Attorney Docket Number	018300-001349

**ENCLOSURES (check all that apply)**

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to Group
<input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to Group ( <i>Appeal Notice, Brief, Reply Brief</i> )
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
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<input type="checkbox"/> Certified Copy of Priority Documents	<input type="checkbox"/> Terminal Disclaimer	Declaration by inventor Tokarz;
<input type="checkbox"/> Response to Missing Parts/Incomplete Application	<input type="checkbox"/> Request for Refund	2 non-patent literature documents;
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> CD, Number of CD(s) _____	acknowledgement postcard
Remarks		

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual Name	MATTHEW W. WITSIL (REG NO. 47,183) MOORE & VAN ALLEN
Signature	
Date	APRIL 28, 2004

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.			
Typed or printed name	Katie M. Efland		
Signature		Date	April 28, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Christopher A. Tokarz )  
Serial Number: 10/708,807 ) Group Art Unit:  
Filed: March 26, 2004 ) Examiner:  
For: Thermomechanical Processing Routes in )  
Compact Strip Production of High-Strength )  
Low-Alloy Steel )

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. § 1.56 AND 37 C.F.R. § 1.97**

It is respectfully requested that the attached Declaration of Christopher A. Tokarz and the documents listed on the attached Form PTO/SB/08A be considered by the Patent and Trademark Office in the above-referenced application and made of record therein. A full text copy of the relevant non-patent literature documents listed on PTO/SB/08A is enclosed. This Information Disclosure Statement submitted herewith is being filed within three months of the filing date of the application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last.

Respectfully submitted,

By: Matthew W. Witsil  
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April 28, 2004  
Date

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Katie M. Efland  
Katie M. Efland



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Christopher A. Tokarz, et. al	)	
	)	
Application No.: 10/708,807	)	Art Unit: Not Assigned
	)	
Filed: March 26, 2004	)	Examiner: Not Assigned
	)	
Title: Thermomechanical Processing Routes	)	
in Compact Strip Production of	)	
High-Strength Low-Alloy Steel	)	
	)	

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION OF CHRISTOPHER A. TOKARZ UNDER 37 C.F.R. § 1.98**

Sir:

I, Christopher A. Tokarz, declare as follows:

1. I am a United States citizen and my domicile address is 1976 Presidio Drive, Mt. Pleasant, South Carolina 29466.
2. I received my Bachelor of Science degree in Material Science and Engineering in May 1996 from the University of Florida.
3. I have been employed since June 1996 as a metallurgist by Nucor Corporation, 2100 Rexford Road, Charlotte, North Carolina ("Nucor"), at its Nucor Steel-Berkeley facility in Huger, South Carolina and my current position is Hot Mill Process Engineer in the automation and programming group.
4. From April 1998 to August 2003, my position was Hot Mill Metallurgist. My duties included responsibility for ensuring that the metallurgical composition, microstructure, and mechanical characteristics of the steel produced at the facility met

product specifications. I regularly oversaw hot rolling of thin slab into coils.

5. I have personal knowledge of the characteristics of line pipe steel as specified under the American Petroleum Institute (API) 5L standard.

6. I have personal knowledge of the difficulties encountered by the presence of coarse ferrite grains in heavy gauge microalloyed steel strip, which can cause high background noise levels in Ultrasonic Testing of pipe made from this steel and may thereby hide supercritical flaws or defects. Such coarse grains can also lower strength and toughness.

7. I am a co-inventor of U.S. provisional patent application Serial Number 60/458,153, entitled "Thermomechanical Processing Routes in Compact Strip Production of High-Strength Low-Alloy Steel," and filed on March 27, 2003 in the name of Anthony J. DeArdo et al. (the "Application").

8. I am also a co-inventor of U.S. nonprovisional patent application Serial Number 10/708,807, entitled "Thermomechanical Processing Routes in Compact Strip Production of High-Strength Low-Alloy Steel," and filed on March 26, 2004 in the name of Christopher A. Tokarz et al. (the "Application"), which claims priority to Serial Number 60/458,153.

9. The Application claims a thermomechanical process for making high-strength low-alloy steel by compact strip production, and includes steel intended to meet the requirements of API 5L X42 line pipe and greater.

10. As is the industry practice, in the process of developing a new method of manufacture, it is necessary to run experimental heats of slabs and roll prototype coils. Subsequent to production, Nucor tests the steel for mechanical characteristics and

sometimes microstructure.

11. The experimental heats performed for the present invention resulted in a number of experimental coils each approximately up to 6 feet in diameter, with a width of 4 feet, and an area on the order of from 6,000-8,000 square feet.

12. In the Nucor-Berkeley finishing mill there are six roll stands available, and the roll stands are referred to in sequence from start to end as F1, F2, F3, F4, F5, and F6. The last roll stand in service is F6. Typical hot mill configuration is between five and seven mill stands.

13. One feature of the inventive method includes increasing the interpass times between roll stands to allow recrystallization of austenite to occur. Nucor accomplishes this increase in interpass time in practice by eliminating deformation at certain early roll stands, also referred to as “dummying” those roll stands. Concurrently the deformation at selected remaining roll stands is increased, causing the coil to meet gauge requirements.

14. Nucor’s customer for line pipe (the “Customer”) became a partner in development by supplying orders for material used in experimental trials by Nucor and providing feedback on the performance of the experimental prototypes. Nucor disclosed the general idea behind the method of dummying stands in making the steel to the Customer, but not to others.

15. Under industry practice, “stock” grade steel is excess, defective, or experimental steel. Stock steel is stored in the “yard” at Nucor’s facility, not having been preordered by a customer. Stock steel is ordered by customers after production and sold on the “secondary market” without notification, certification, or guarantee of its

microstructure or mechanical characteristics. Accordingly, stock steel may be considered generic.

16. Nucor made experimental prototype high-strength low-alloy steel intended to conform to API 5L X42, and X52 requirements starting on or about May 1, 2001 with, for example, F3, F4, and F3 & F4, and F4 & F5 respectively dummied on various runs. Some of this experimental steel was sold prior to one year in advance of the priority date of March 27, 2003, or March 27, 2002, the "Critical Date," to the Customer and, in some cases described below, to others as stock steel. Specifically, prior to the Critical Date approximately 23 heats cast as approximately 138 coils of steel intended to meet API 5L X42 and X52 requirements were made, and 31 heats cast as approximately 185 coils of steel intended to meet X60 and X70 requirements were made. The Customer provided general feedback to Nucor on these coils.

17. As an example of the experimental nature of the steel, Nucor produced experimental prototype high-strength low-alloy steel coils intended to conform to API 5L X42 on or about May 1, 2001. Stands F3 and F3 & F4 were dummied in separate runs, with 4 coils being made in the trial. The steel was unacceptable because of a "banded" microstructure caused by coarse ferrite grains through the microstructure that precludes accurate Ultrasonic Testing of welds, as referred to in paragraph 6 above. This experimental steel was sold prior to the Critical Date.

18. As a further example, Nucor performed experimental trials to make ten prototype coils of steel intended to conform to X60 and X70 with various combinations of stands dummied on or about October 27, 2001. These prototype slabs were sold prior to the Critical Date, but again, not for their intended purpose. The bulk of these coils

were sold as lower quality piling steel. The remainder of this steel was sold as stock steel.

19. Two experimental prototype heats of steel intended to conform to X70 were ordered on December 28, 2001, rolled with two stands dummied on January 17, 2002, shipped and invoiced on January 26, 2002. The Customer tested these coils of X70 steel on March 12, 2002. The Customer provided feedback from testing of these coils to Nucor, including tensile strength testing, impact testing, and ultrasonic testing.

20. One experimental prototype slab of steel intended to conform to X60 was ordered by the Customer on March 6, 2002, rolled with stands F3 & F4 dummied on the Critical Date of March 27, 2002, shipped on April 1, 2002, and invoiced on April 4, 2002. The Customer provided feedback on this steel, which was used for its intended purpose as line pipe.

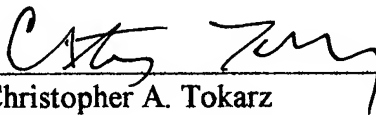
21. All of the coils rolled through the Critical Date were produced for experimental purposes to obtain the data necessary to verify the method steps and measure the properties required for acceptable line pipe intended to meet the requirements of X42 grade steel and greater. These coils were prototypes of the present invention.

22. Purchasers of any experimental prototype steel coils from the Customer, as well as other customers of Nucor that bought stock steel, are highly unlikely to have found out about its novel method of manufacture, as this cannot be identified by inspection of the steel.

23. The invention was not complete until after the Critical Date, upon completion of developmental testing trial runs to verify it suitable for its intended use.

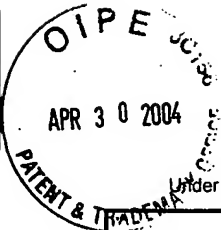
24. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

This 26<sup>th</sup> day of April, 2004.

  
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Christopher A. Tokarz







<b>Substitute for form 1449B/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>			
		Application Number	10/708,807		
		Filing Date	March 26, 2004		
		First Named Inventor	Christopher Tokarz		
		Art Unit			
Sheet	2	of		Examiner Name	
				Attorney Docket Number	018300-001349

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	F	C.I. GARCIA, ET AL., Niobium HSLA Steels Produced Using the Thin Slab Casting Process: Hot Strip Mill Products, Properties and Applications, Basic Metals Processing Research Institute, Department of Materials Science and Engineering, University of Pittsburgh, PA, paper presented in China December, 2002 (pp. 1-17)	
	G	C.I. GARCIA, ET AL., Microstructural Characterization of the Solidification and Equilibrated Microstructures of Nb-Bearing Microalloyed Steels Produced by the Compact Strip Processing, Basic Metals Processing Research Institute, Department of Materials Science and Engineering, University of Pittsburgh, PA, paper presented in China December 2002 (12 pages)	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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